



# REBUILD MASSACHUSETTS NEWS

A Publication of the Rebuild Massachusetts Program  
*The US Department of Energy (DOE) sponsors the Rebuild Massachusetts Initiative  
as part of their Rebuild America program.*

## NATIONAL ENERGY CONFERENCE FOR EDUCATORS

National Energy Education Development (NEED) works with state and local partners to provide energy education workshops to teachers and students throughout the school year. NEED workshops help educators implement energy programs in their classrooms while developing student knowledge and leadership skills. NEED works with the education community and the energy industry to design and distribute hands on, science-based educational materials on energy for grades K-12, conduct student and teacher training programs, provide evaluation tools, and recognize outstanding student and teacher achievement.

**A 2004 National Energy Conferences for  
Educators is scheduled for:  
July 11-15, 2004 Hyannis, Massachusetts**

*Sponsored by Cape Light Compact*

The NEED National Energy Conferences for Educators are hosted each July to train teachers to incorporate energy programs into their classroom and extracurricular activities. In 2003 over 300 educators participated thanks to the sponsorship of many local, state, and national sponsors. In five activity-packed days, the conferences provide teachers with the most up-to-date information on all aspects of energy, including the science of energy, sources of energy, consumption, electricity, efficiency, and environmental and economic impacts. These five-day programs cover all aspects of energy education and offer three graduate credits to participating educators. Each conference includes a one-day field experience, allowing educators to get an "up-close" view of a variety of energy topics.

## PUBLIC HOUSING MAVERICK GARDENS



Rebuild Massachusetts has been involved in the development of Maverick Gardens in East Boston for more than two years. When completed, there will be more than 400,000 square feet of mixed-income energy-efficient development. [Read more about this project on page 2.](#)

## ENERGY SMART SCHOOLS

Energy Smart Schools, launched in 1998 by the U.S. Department of Energy, is an integral and active part of the Rebuild America program. EnergySmart Schools provides school decision-makers with the tools and assistance they need to make good choices when renovating existing schools and building new ones. [Read about the recent High Performance School Seminars held in Massachusetts and Rhode Island on page 2.](#)

## REBUILD BOSTON

Read how Boston is developing an *Integrated Energy Management Plan* to meet its goal of 10% reduction in energy use. [More on page 3](#)

## **Igniting Creative Energy**

*A National Student Challenge*

*Administered by the National Education Foundation*

**Open to students K-12, the Challenge is an educational competition designed to encourage students to learn more about energy and the environment. All entries must be postmarked on or before February 21, 2004**

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## Maverick Gardens

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Located on the East Boston waterfront and just outside Maverick Square, Maverick Gardens [\(news\)](#) offers a variety of living arrangements for low- and moderate-income individuals and families.

This project got its start with the award of a HOPE VI [\(web\)](#) redevelopment grant to the Boston Housing Authority [\(web\)](#), with the East Boston Community Development Corporation [\(web\)](#) acting as the non-profit developer. Funding for the project is also being provided by a number of public/private partners including the City of Boston (Neighborhood Housing Trust and Department of Neighborhood Development), state funded low-income tax credit equity, the Boston Housing Authority, Mass Housing and the Department of Housing and Community Development.

With assistance from Rebuild Massachusetts technical consultants, represented by the Peregrine Energy Group, and Rebuild America's consultant Matt Pesce, the design and development team is producing a highly energy efficient development that aims to be LEED-certified [\(web\)](#) (the application is in-process).

The LEED (Leadership in Energy and Environmental Design) Green Building Rating System™ is a voluntary, consensus-based national standard for developing high-performance, sustainable buildings. LEED provides a complete framework for assessing building performance and meeting sustainability goals. Based on well-founded scientific standards, LEED emphasizes state of the art strategies for sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality. LEED recognizes achievements and promotes expertise in green building design through a comprehensive system offering project certification, professional accreditation, training and practical resources.

During the summer of 2003, Peregrine Energy Group analyzed subsidies to optimize the use of additional funding for this project. This analysis provided identification of other resources to ensure the implementation of the high level of energy efficiency planned. The Rebuild America assistance provided support to new construction that previously had only been available for retrofit projects.



## Energy Smart Schools

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In December, Rebuild Massachusetts partner *Massachusetts Electric* [\(web\)](#) and Rebuild Rhode Island partner *Narragansett Electric* [\(web\)](#) (both National Grid Companies) hosted two Rebuild America Energy Smart Schools Technical Seminars. These seminars corresponded to the cold and humid climate zone of the Energy Design Guidelines and Best Practice Manual [\(web\)](#) for High Performance Schools. The Northeast Energy Efficiency Partnership [\(web\)](#) cosponsored and administered the seminars. Other cosponsors included the Division of Energy Resources and the Rhode Island State Energy Office [\(web\)](#).

The difference between a well designed, energy efficient school and a typical school can be seen in their utility bills. In many school districts, energy costs are second only to salaries, exceeding the cost of supplies and books. According to the U.S. Department of Energy, at least a quarter of that cost could be saved through smart energy management. Districts building new schools have an opportunity to incorporate energy-saving strategies right from the start. Building renovations can be just as energy smart by replacing aging systems with energy efficient retrofits.

Likewise, evidence is growing that there is a direct link between energy systems in school buildings and student performance and health. Some of the links are intuitive: students cannot read the blackboard if lighting is inadequate, cannot hear clearly over the din from noisy heating and cooling systems, cannot concentrate if they are freezing in classrooms with poor temperature control, and are likely to miss school days if their asthma is aggravated by indoor air contaminants that travel through heating, cooling, and ventilation systems. Additional evidence exists of strong connections between daylighting (building systems that capture sunlight for indoor lighting) and better student performance [\(web\)](#).

The Energy Smart Schools seminars offered a free one-day event for Superintendents, Business Officials, School Board Members, Facilities and Energy Managers, Architects, Engineers, and others interested in high-performance school design and energy efficient technologies. Rebuild Massachusetts is planning additional seminars in Massachusetts and will post dates on the DOER web page calendar [\(web\)](#).

## Rebuild Boston

The City of Boston, through the development of an ***Integrated Energy Management Plan*** (IEMP), is working to meet its goals for the:

- Integration of cost-effective efficient use of energy
- Development of standardized practices to incorporate into the City's process for evaluating and prioritizing future capital needs of its facilities
- Growth and expanded use of renewable energy resources

The aim of the IEMP is to identify opportunities and formulate a strategy to implement energy efficiency measures. Boston is taking the first demonstrative measures to implement the strategy with a co-operative approach and a wide stakeholder base. The IEMP will prioritize and support the work of achieving a ten percent (10%) reduction in municipal energy consumption and provide a sound basis for ongoing programmatic decrease in energy use.

The success of the City's near-, mid-, and long-term energy management planning depends on the collective effort of the stakeholder departments including the City's Auditing department, Office of Budget Management, Environment department, Department of Neighborhood Development, Management Information Systems (MIS), Property and Construction Management, Boston Public Health Commission, Public Works department, and Transportation department. The focus is on infrastructure (such as traffic signals and streetlights), transportation, and facilities. The City already switched most red light traffic signals to LED (light emitting diodes) to maximize savings and minimize maintenance cost.

Implementation of the IEMP includes building institutional capacity for planning, evaluating, and initiating different strategies and available energy efficiency technologies. By addressing the costs, technical issues, and implementation procedures Boston can demonstrate the technical, economic and financial feasibility of the initiative by applying the selected energy efficiency measures and technologies and disseminating the information and project experience.

Other efforts to promote sustainability include the Green Building Task Force initiated in June 2003. Mayor Thomas M. Menino named 21 leaders from Boston's design, construction, and finance communities to serve on the task force.

Funded through a grant from the Massachusetts Technology Collaborative (MTC), the task force will examine existing barriers to building high performance "green" energy efficient buildings in Boston and recommend concrete steps to overcome these barriers. They will operate until June 2004, at which time they will present recommendations to Mayor Menino.

### George Robert White Environmental Conservation Center



The Environmental Conservation Center (ECC), located in Mattapan, is an 8,500-square-foot building leased to the Massachusetts Audubon Society for use as its Boston Nature Center and Wildlife Sanctuary. The ECC's environmental and energy conservation techniques and technologies include:

- Photovoltaic roof shingles to generate electricity
- Solar thermal panels for water heating
- Geo-thermal heat pumps for heating and cooling
- Passive solar vine trellis for summer shading
- Wood from sustainable forestry operations
- Furniture and carpeting made from recycled material

The George Robert White Fund, established in 1922 through the bequest of George Robert White, is a public charitable trust of the City of Boston.

# Igniting Creative Energy

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The Challenge to students is simple:

- **Step 1** - Learn how an individual's own wise energy choices and environmental stewardship can help reduce energy consumption and improve the community in which we live.
- **Step 2** - Ignite your creative energy to explore new and creative ways to make a difference in the way you use energy.
- **Step 3** - Use your creative talents to communicate your energy ideas and actions to others.

A growing energy crisis and a national discussion about the future of our natural resources are bringing the impact of our energy choices closer to home.

**What can we as individuals do to make a difference?**

That is the question the *Igniting Creative Energy Challenge* is encouraging teachers across the United States and parts of Canada to ask their students. Open to students K-12, the Challenge is an educational competition designed to encourage students to learn more about energy and the environment.

Sponsors of the Challenge would like to acknowledge exemplary teaching and reward both teachers and students for expressing their understanding of the issues. All student entries will be recognized, with Grand Prize Trips to Hawaii awarded to three students and one teacher!

Student entries must reflect the theme "Igniting Creative Energy" and demonstrate an understanding of what an individual, family or group can do to make a difference in their home or community. Students may express their ideas in the form of documented science projects, essays, stories, artwork, photographs, music or video or website projects. They may also submit recent service projects, or results from the National Energy Foundation's own Energy Patrol activities.

For information on contest judging criteria and rules, go to <http://www.ignitingcreativeenergy.org>

Rebuild Massachusetts  
c/o The Commonwealth of Massachusetts, Division of Energy Resources  
70 Franklin Street, 7<sup>th</sup> Floor  
Boston, Massachusetts 02110-1313  
T: (617) 727-4732    F: (617) 727-0030    W: [www.mass.gov/doer](http://www.mass.gov/doer)